

Remarks

The present Amendment is submitted in response to the non-final Office Action dated May 26, 2009.

The non-final Office Action objects to the Title, the Abstract and to claim 10, rejects claim 7 under 35 USC §112, second paragraph, rejects claims 1, 2, 4, 8 and 9 under 35 USC §102(b) over US Patent No. 6,626,510 to Maeda (Maeda), rejects claims 1, 5, 6 and 10 under 35 USC §102(b) over US patent No. 5,997,121 to Altfather (Altfather), rejects claim 1 under 35 USC §102(b) over US patent No. 5,942,976 to Wieser (Wieser), rejects claim 3 under 35 USC §103(a) over Maeda and rejects claims 11 and 12 under 35 USC §103(a) over Wieser in view of US Patent No. 6,469,625 to Tomooka (Tomooka).

In response to the objection to the Title, the Title as filed is amended to read "Sensor Arrangement for Detecting a Liquid on a Surface of an Intrusion Detector" as shown above. Withdrawal of the objection to the Title is respectfully requested, therefore.

In response to the objection to the Abstract of the Disclosure, the Abstract of the Disclosure, as filed, is amended to the language shown above. Withdrawal of the objection to the Abstract of the Disclosure is respectfully requested, therefore.

In response to the objection to claim 10, applicant has amended claim 10 to now depend from claim 5, rather than claim 1. Withdrawal of the objection is respectfully requested, therefore.

In response to the rejection of claim 7 under 35 USC §112, second paragraph, applicant has cancelled claim 7 without prejudice or disclaimer of subject matter, and respectfully requests withdrawal of the rejection, therefore.

In response to the rejections in view of Maeda, Altfather and Wieser, separately, under section 102(b), and of under Maeda, and Wieser in view of Tomooka, under section 103(a), applicant has amended independent claim 1, the sole independent claims, to incorporate the subject matter of claim 2, now cancelled.

Independent claim 1 as amended now calls out an intrusion detector including a sensor arrangement for detecting a liquid (C) on a surface (100, 120, 160, 170).

The sensor arrangement comprises at least one transparent elevation (12, 22, 32, 42, 52, 62, 72) formed on the surface (100, 120, 160, 170). The transparent elevation (12, 22, 32, 42, 52, 62, 72) is made of a first transparent material (B). At least one first facet (110, 111, 171, 172, 181) of the transparent elevation (12, 22, 32, 42, 52, 62, 72) is defined at a first angle (α , β) with the surface (100, 120, 160, 170). The first angle (α , β) is larger than an angle at which a total reflection occurs at an interface of the first transparent material (B)

and air (A) and is smaller than an angle at which a total reflection occurs at an interface of the first transparent material (B) and the liquid (C).

A light source (13, 23, 33, 43, 53, 63, 73) is arranged for emitting an incident ray (r) into a first direction such that the incident ray (r) passes through the surface (100, 120, 160, 170) into the transparent elevation (12, 22, 32, 42, 52, 62, 72), wherein in a presence of the liquid (C) at the first facet (110, 111, 171, 172), the incident ray is transmitted through the first facet (110, 111, 171, 172), and wherein in absence of the liquid (C), the incident ray is reflected due to a total reflection at the first facet (110, 111, 171, 172). A light detector (14, 24, 34, 44, 54, 64, 74) for detecting the reflected incident ray (r').

Maeda, as distinguished, discloses an inkjet tank detection level apparatus and method. Maeda's Fig. 9 discloses an ink tank 700 including a prism 180 to detect a remainder ink in reservoir 716. The prism 180 is triangular, with a concave-shaped bottom. Fig. 10 depicts a light emitting device 1001 that emits light onto a bottom of prism 180 (path A), which passes light (path B') and reflects light (path B) from a top left surface of the prism, and which light (path B) is reflected back (path C) to a light receiving device 1002.

Maeda measures and detects an intensity of the received light, and compares it with an intensity of the transmitted light, thereby determining whether ink is present in the reservoir.

Maeda is not an intrusion detector, as claimed.

Maeda's sensor arrangement and elevation/prism 180 are not configured so that at least one first facet of its transparent material is defined at a first angle (α , β) with the surface that is larger than an angle at which a total reflection occurs at an interface of the transparent material and air and smaller than an angle at which a total reflection occurs at an interface of the transparent material and liquid, wherein an incident ray transmitted from a light source into the first facet passes through the first facet in the presence of the liquid, and is reflected due to a total reflection at the first facet in an absence of the liquid, as claimed.

Maeda does not disclose a light detector configured for detecting the reflected incident ray (r'), as claimed.

Altfather, like Maeda, discloses a an ink container ink level sensing system. Altfather's Fig. 2 shows a printhead cartridge including first 40 and second 42 ink containers. A light directing element 21 is integrally formed in a bottom wall 17a, and includes facet surfaces 21A, 21B, angled to each other at 82° . Altfather operates to detect a presence of a container 16, as well as low ink detection.

Altfather is not an intrusion detector, as claimed.

Altfather's prism 21 and assembly 30 are not configured so that at least one first facet of its transparent material is defined at a first angle (α , β) with the surface that is larger than an angle at which a total reflection occurs at an interface of the transparent material and air and smaller than an angle at which a

total reflection occurs at an interface of the transparent material and liquid, as claimed.

Wiser discloses a passive infrared intrusion detector 1. A light source (LED) 8 and sensor (photodiode) 9 operate to monitor an entrance window 3 for sabotage. A beam path is shown with broken lines in Fig. 3. That is, light incident on entrance window 3 is focused by grating structure 4 onto a sensor 9. If the entrance window and grating structure are covered by spray adhesive, i.e., sabotaged, light scatters and there is very little signal power received/detected at sensor 9, which sets off an alarm

Wieser's Fig. 3 passive infrared intrusion detector 1 and sabotage monitoring arrangement are not configured so that at least one first facet of an elevation comprising a transparent material is defined at a first angle (α , β) with the surface that is larger than an angle at which a total reflection occurs at an interface of the transparent material and air and smaller than an angle at which a total reflection occurs at an interface of the transparent material and liquid, wherein an incident ray transmitted from a light source into the first facet passes through the first facet in the presence of the liquid, and is reflected due to a total reflection at the first facet in an absence of the liquid, as claimed.

In view of the fact that independent claim 1 includes these limitations, which Maeda, Altfather and Wieser do not, none of Maeda, Altfather and Wieser anticipate the invention as claimed. As such, Maeda, Altfather and Wieser are not proper references under 35 USC §102 pursuant to the guidelines set forth in

the last paragraph of MPEP §2131, where it is stated that “a claim is anticipated only if each and every element as set forth in the claims is found, either expressly or inherently described, in a single prior art reference,” and that “the identical invention must be shown in as complete detail as is contained in the ... claim.”

Amended independent claim 1, is therefore patentable under 35 USC §102(b) over Maeda, Altfather and Wieser, where each is taken separately. Claims 2, 4, 8 and 9 depend from independent claim 1 and are patentable therewith over Maeda; claims 5, 6 and 10 depend from independent claim 1 and are patentable therewith over Altfather. Applicants, therefore, respectfully request withdrawal of the rejection of claims 1, 2, 4, 8 and 9 under 35 USC §102(b) over Maeda, the rejection of claims 1, 5, 6 and 10 under 35 USC §102(b) over Altfather and the rejection of claim 1 under 35 USC §102(b) over Wieser.

In response to the rejection of claim 3 under 35 USC §103(a) over Maeda, applicant respectfully asserts that Maeda does not teach or suggest the limitations of independent claim 1, as asserted above in response to the rejection of claim 1 over Maeda under section 102(b). Hence, it would not have been obvious to modify Maeda with respect to the claim 3 limitation, nor would modifying Maeda as suggested realize an intrusion detector including all of the limitations of claims 1/3.

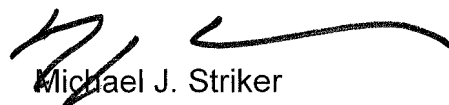
Applicant, therefore, respectfully requests withdrawal of the rejection of claim 3 under 35 USC §103(a) over Maeda.

In response to the rejection of claims 11 and 12 under 35 USC §103(a) over Wieser in view of Tomooka, applicant respectfully asserts that Tomooka fails to overcome the shortcomings of Wieser, as asserted above in response to the rejection of claim 1 over Wieser under section 102(b). Hence, it would not have been obvious to modify Wieser with Tomooka, nor would modifying Wieser with Tomooka as suggested realize an intrusion detector including all of the limitations of claims 1/11 and 1/12.

Applicant, therefore, respectfully requests withdrawal of the rejection of claims 11 and 12 under 35 USC §103(a) over Wieser in view of Tomooka.

Accordingly, the application as amended is believed to be in condition for allowance. Action to this end is courteously solicited. However, should the Examiner have any further comments or suggestions, the undersigned would very much welcome a telephone call in order to discuss appropriate claim language that will place the application in condition for allowance.

Respectfully submitted,



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